EXHIBIT B

Professional Eyes Only / Highly Confidential
Subject to Protective Order

IN THE UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK

In re: PURDUE PHARMA L.P. et al., *Debtors*	Chapter 11 Case No. 19-23649 (RDD)

EXPERT REPORT OF MATTHEW D. CAIN, PHD

July 6, 2021

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I. INTRODUCTION

A. Background

1. Purdue Pharma L.P. ("Purdue Pharma") is a pharmaceutical company that filed for Chapter 11 bankruptcy on September 15, 2019.[1] Trusts for the benefit of the Sackler family directly or indirectly owned most of the Purdue Pharma partnership interests.[2] The proposed restructuring plan for Purdue Pharma, filed on June 3, 2021, includes provisions requiring the Sackler family to make annual payments from 2021 to 2030 totaling $4.275 billion ("Proposed Payments").[3]

2. I understand that the bankruptcy proceedings distinguish two branches of the Sackler family. According to the Hrycay Report, the Mortimer Sackler branch ("Side A") reported that it had $4.8 billion of net assets as of September 30, 2019, comprised of $6.0 billion of assets and $1.2 billion of liabilities.[4] According to the Hrycay Report, the Raymond Sackler branch ("Side B") reported that it had $5.9 billion of net assets as of September 30, 2020, comprised of $7.5 billion of assets and $1.6 billion of liabilities.[5] Both the Side A and Side B net asset values were based in significant part on illustrative values assigned to investments in Independent Associated Companies ("IACs").[6]

B. Assignment

3. Debevoise & Plimpton LLP, counsel for Side A, retained me to review and comment on the Hrycay Report, including whether the Hrycay Report provides the Court with a reliable measure of the future value of the Sackler Family net assets in 2030. I was also asked to calculate the value of the Proposed Payments in June 2030, since the present value of the

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1 Prime Clerk, "Purdue Pharma L.P.: Case No. 19-23649," 2021, available at <https://restructuring.primeclerk.com/purduepharma/>.

2 *See, e.g.,* Forbes, "#30 Sackler Family," 2021, available at <https://www forbes.com/profile/sackler/?sh=22f72e485d63>.

3 Disclosure Statement for Fifth Amended Joint Chapter 11 Plan of Reorganization of Purdue Pharma L.P. and its Affiliated Debtors, June 3, 2021 ("Disclosure Statement"), pp. 153-154. The schedule of Proposed Payments is: $300 million upon the effective date, $350 million in each of 2022 through 2025, $300 million in 2026, $1 billion in 2027, $475 million in 2028, $400 million to $425 million in 2029, $200 million to $375 million in 2030, and up to $200 million in 2031 (to the extent that payments in 2029 or 2030 were less than the maximum amount).

4 Expert Report of William P. Hrycay, CFA, June 15, 2021 ("Hrycay Report"), p. 8.

5 Hrycay Report, p. 9.

6 Hrycay Report, pp. 8-9.

Proposed Payments would not be directly comparable to the future value of the Sackler family net assets. The future value of the Proposed Payments would represent additional net wealth of the Sackler family absent any Proposed Payments.

C. Qualifications and Compensation

4. I am a Senior Fellow at the Berkeley Center for Law and Business and a Senior Visiting Scholar at Berkeley Law School, University of California. I teach courses, deliver guest lectures, participate in academic seminars, and conduct research in various topic areas related to finance, economics, accounting, law, and business. My research focuses on a variety of topics such as empirical corporate finance, corporate governance, board independence, mergers and acquisitions, hostile takeovers, shareholder lawsuits, negotiations, financial contracting, disclosures of financial information, and shareholder activism. I previously held a fellowship with the Harvard Law School Program on Corporate Governance, where I participated in research seminars and related activities.

5. I worked at the U.S. Securities and Exchange Commission ("SEC") between 2014 and 2018. During that time, I provided economic analysis and expert witness testimony on behalf of the SEC in a wide variety of enforcement investigations, settlement negotiations and litigation, including cases alleging accounting fraud, improper revenue recognition practices, and disclosure violations. I also served as an advisor to SEC Commissioner Robert J. Jackson, Jr., during which time I assisted with enforcement oversight and policymaking decisions, research, and speechwriting on a wide range of topics including securities violations, revenue recognition practices, and corporate governance issues. Additionally, while employed at the SEC as a Financial Economist, I continued to work on and publish academic research, and I was awarded the Chairman's Award for Economic Research.

6. Prior to working at the SEC, I was an Assistant Professor of Finance at the University of Notre Dame. I taught courses in Mergers and Acquisitions to both undergraduate and graduate students, and I also conducted empirical research on various finance, legal, accounting, and economic topics. I have engaged in academic research for over a decade and continue to publish in law reviews and peer-reviewed academic journals across these disciplines.

7. Prior to working at Notre Dame, I received a Ph.D. in Finance from Purdue University in 2007. Prior to those studies, I worked as an analyst in Debt Capital Markets at National City Bank, where I assisted companies in raising syndicated loans and private placements of debt and equity for use in funding mergers, acquisitions, and other general corporate purposes. I received a B.S. in Finance from Grove City College in 2001.

8. In addition to teaching at UC Berkeley, Notre Dame, and Purdue, I have delivered guest lectures to undergraduate and graduate students at Vanderbilt University, Arizona State University, Cornell University, and UC Berkeley School of Law. I have also presented my academic research at numerous academic, governmental, and professional institutions. I have published research in leading finance, accounting, law, and economics journals including the *Journal of Financial Economics*, *Journal of Law and Economics*, *Journal of Accounting and Economics*, *Journal of Empirical Legal Studies*, and *Journal of Financial and Quantitative Analysis*. My *curriculum vitae* further details my publications and previous testimony.

9. My *curriculum vitae*, attached as **Appendix A** to this report, contains a more detailed list of my experience, including my research publications and testifying experience.

10. I bill for my work on this matter at my standard hourly rate of $750. My rate is not contingent on the nature of the opinions that I form or the outcome of this case.

D. Evidence Relied Upon

11. In preparing this expert report, I (or my support team from Analysis Group, Inc., working at my direction) have reviewed the documents provided to me, relevant publications, and other information and data available from public and third-party sources. A full list of all sources I have relied upon is included in **Appendix B**. In addition to the information listed in **Appendix B**, I have relied on my training and professional experience.

E. Summary of Conclusions

12. The Hrycay Report presents the analysis with a false sense of precision and the conclusions are ultimately unreliable. My conclusion draws on two broad areas of critique, one conceptual and the other relating to the implementation details.

13. First, the process of forecasting investment values a decade into the future is subject to considerable uncertainty regarding the performance of the investments. In addition to the performance of the underlying asset classes, a number of variables will necessarily affect the projections, including liquidity needs, taxes, transactions costs, and portfolio rebalancing. These variables are likely to be particularly important in this matter given the number of family units within the Side A and Side B branches of the Sackler family. Mr. Hrycay also misuses the illustrative $4.5 billion number assigned to the IACs, which represent a prominent portion of the investment portfolio and source of the proposed settlement payments. As set forth in the Mortimer-Side Net Asset presentation, no market valuation for the IACs exists and $4.5 billion is simply a hypothetical gross sales number of the IACs. I understand that this value assumes sales at some unknown point after September 2019, so it does not even represent a starting value as used in the Hrycay Report. The Hrycay Report fails to recognize the inherent uncertainties in these variables and makes no attempt to perform sensitivity analysis to understand how the conclusions would change based upon reasonable modifications to the underlying assumptions.

14. Second, the Hrycay Report's conclusions about the expected net value of the Sackler Family assets in 2030 are based upon a flawed analysis and are thus unreliable. The calculations and analysis: a) lack sufficient detail, b) ignore uncertainty inherent in investing, c) are highly sensitive to IAC investment assumptions, d) are premised upon inflated investment returns that ignore investment costs, fees, expenses, and taxes on dividends, e) ignore investment portfolio composition and rebalancing needs, f) ignore family unit liquidity considerations, investment objectives, and risk preferences, and g) ignore typical differences among individual investments' realized performance. Each of these flaws is independent of the other, and each has the potential to inflate the calculations – on a standalone basis individually, as well as cumulatively across all of the flaws.

15. The Hrycay Report's present valuation of the Proposed Payments is not comparable to the Hrycay Report's future valuation of the Sackler family net assets due to the different points in time for these valuations, and it ignores the potential future gains in wealth that would be foregone under the payment structure. The future value of the Proposed Payments assuming a 5.42% average return, the weighted average across asset classes from the Hrycay Report, would be $5.35 billion. In other words, by making the Proposed Payments,

the Sackler family is forgoing not only the principal of those payments, but any return that could be generated on that amount. The Sackler Family would be wealthier in June 2030 than if it did not make the Proposed Payments.

16. Should additional relevant information become available to me, I may modify the above opinions or form additional opinions. If asked to testify in this matter, I anticipate using graphical versions of the information from this report and the underlying materials I have considered.

II. SUMMARY OF THE HRYCAY REPORT

17. The Hrycay Report reaches two conclusions:

    a. "As of 2030, after the Proposed Payments, the expected net value of the Sackler Assets would be $14,574 million."[7]
    b. "The estimated present values of the Proposed Payments are in the range of $2,761 million to $3,973 million."[8]

18. To determine the "expected net value" of the Sackler Assets in 2030, the Hrycay Report begins with asset and liability data reported by category and undertakes the following steps. First, Mr. Hrycay assigns each reported category of assets and liabilities to a "similar broad asset categor[y]" with an index for which he can measure an investment return or observe a predicted rate of return.[9] Second, Mr. Hrycay uses the actual investment returns on these broad indices to adjust the asset and liability values for both Side A (reported as of September 2019) and Side B (reported as of September 2020) to March 31, 2021.[10] Third, Mr. Hrycay predicts the value of each asset and liability category from March 31, 2021 to June 30, 2030 by assuming growth at a constant rate equal to BlackRock's published expected annualized ten-year return for each asset class.[11] In this third step, he also subtracts the Proposed Payments each year but is vague as to which asset class(es) he

[7] Hrycay Report, p. 6.
[8] Hrycay Report, p. 6.
[9] Hrycay Report, p. 10.
[10] Hrycay Report, p. 10.
[11] Hrycay Report, pp. 14-16. One exception is art, which comes from Citigroup because BlackRock does not report that asset class.

subtracts those from, aside from noting that the $1 billion payment in June 2027 is from the IAC assets.[12]

19. The second conclusion in the Hrycay Report is a simple present value calculation of the Proposed Payments, using a variety of discount rates.[13] The present value of the Proposed Payments at the lowest discount rate of 1.51% (the 10-year US Treasury rate) is $3.97 billion. The present value at 2.50%, which is the low end of the range stated in the Disclosure Statement, is $3.79 billion. The present value at 10.00%, which is the high end of the range stated in the Disclosure Statement, is $2.76 billion.

III. FINDINGS REGARDING THE HRYCAY REPORT

20. Based on my review of the Hrycay Report, I identified seven primary issues that undermine the reliability of the conclusions, particularly for the purpose of assessing the likely value of the Sackler family net assets in 2030. I discuss each in the following subsections.

21. The projection of investment performance (or cash flows) becomes more difficult as the projection time horizon increases because the range of possible outcomes grows as the horizon lengthens.[14] For example, the volatility of four-year returns will be double the volatility of one-year returns. As a result, it is much more difficult to predict investment values ten years into the future than it is to predict the value next year. To address this issue, economists tend to explicitly model this type of uncertainty in their forecasts by projecting upper and lower bounds or confidence intervals that increase over the time horizon, or by conducting sensitivity analyses to measure how the forecasted values change with variations in the growth or other assumptions. The Hrycay Report makes no attempt to properly incorporate the increasing forecast uncertainty over the investment time horizon. In the following sections, I explain how the BlackRock data relied upon in the

[12] The Hrycay Report assumes that none of the discretionary payment amounts in 2029 and 2030 are deferred to 2031. Hrycay Report, pp. 17-20.
[13] Hrycay Report, pp. 20-21.
[14] Under standard assumptions, the volatility of returns over N years exceeds the volatility of one-year returns by a factor equal to the square root of N. Campbell, John, Andrew Low, and A. Craig MacKinlay, *The Econometrics of Financial Markets*, 1997, p. 48.

Hrycay Report actually recognizes this inherent uncertainty, but that Mr. Hrycay fails to incorporate it in his analyses.

22. In addition to the performance of the underlying asset classes, a number of other variables will necessarily affect the projections, including liquidity needs, taxes, transactions costs, and portfolio rebalancing. These variables are likely to be particularly important in this matter given the number of family units within the Side A and Side B branches of the Sackler family,[15] and uncertainty about the starting value and after-tax proceeds from sales of the IAC assets, which represent a prominent portion of the investment portfolio and source of the proposed settlement payments. The Hrycay Report fails to recognize the inherent uncertainties in these variables and makes no attempt to perform sensitivity analysis to understand how the conclusions would change based upon reasonable modifications to the underlying assumptions.

23. I also provide some context for interpretation of the two conclusions in the Hrycay Report. First, the Sackler Family net asset value in 2030 is lower (by at least $4.3 billion plus the proceeds the Sackler Family could make by investing that $4.3 billion) with the Proposed Payments than it would be without. Second, it would be inappropriate to compare the net asset value in 2030 with the present value as of 2021 of the Proposed Payments because it ignores the time value of money and differences in the risk of the cash flows.[16]

A. Analysis Lacks Detail

24. As a preliminary matter, the Hrycay Report lacks the detail necessary to replicate Exhibits 9 and 10, which report the Estimated Net Asset Value in 2030.[17] For example, to create these exhibits, it is necessary to know which asset category is used to fund each of the Proposed Payments. I understand that a request was made for the supporting materials

[15] Disclosure Statement, p. 171 ("…while the Sackler Families are frequently described as a monolithic entity, there are, in fact, dozens of members of the Sackler Families spread out around the globe over a number of independent family units and ranging in ages from very small children to senior citizens.").

[16] *See, e.g.*, Berk, Jonathan and Peter DeMarzo, *Corporate Finance* 4th ed., 2017, p. 68 ("As long as we convert costs and benefits to the same point in time, we can compare them to make a decision."). In other words, it is inappropriate to compare the present value of one number with the future value of another number since they are valued as of different points in time.

[17] Hrycay Report, pp. 18-19.

for the exhibits in the Hrycay Report, but they have not been produced as of the filing of this report.

25. To calculate the 2030 net asset values, the Hrycay Report uses expected investment returns from the BlackRock Investment Institute. While BlackRock provides a high-level description of how it calculates these expected returns, their proprietary analysis is a "black box" that does not allow an expert to test the sensitivity of the investment returns to different assumptions or to independently verify their accuracy.

B. Ignores Uncertainty Inherent in Investing

26. The 2030 future values calculated in the Hrycay Report provide an incomplete picture of the likely investment experience because they entirely ignore the role of risk, which is a fundamental part of investing. For each investment class, the Hrycay Report uses a single number to measure future investment performance – the "mean expected return."[18] For example, for the BlackRock "Global 60/40 Portfolio," the mean expected return is 5.38%. A $1,000 investment earning this rate of return for 9.25 years would end with $1,624.[19] However, BlackRock also reports ranges of outcomes. One set of figures is the range of outcomes that BlackRock expects half of the time: 2.71% to 8.14%. Another range BlackRock reports is the lower and upper "mean uncertainty": 4.19% to 6.59%. If the annual return earned over the 9.25-year period were 4.19% instead of 5.38%, the $1,000 investment would grow to $1,462 instead of $1,624, a reduction of 10.0%.[20] If the annual return earned over the 9.25-year period were 2.71% instead of 5.38%, the $1,000 investment would grow to $1,281 instead of $1,624, a reduction of 21.1%.[21]

27. BlackRock also emphasizes that these forecasts are not intended to be used as an estimate of future performance:

> This information is not intended as a recommendation to invest in any particular asset class or strategy or as a promise - **or even an estimate** - of future performance. [emphasis added].[22]

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[18] Hrycay Report, p. 14.
[19] 1.0538^9.25 = 1.624.
[20] 1.0454^9.25 = 1.462.
[21] 1.0271^9.25 = 1.281.
[22] BlackRock Investment Institute, "Capital market assumptions," May 2021, available at <https://www.blackrock.com/institutions/en-us/insights/charts/capital-market-assumptions>.

BlackRock cautions against reliance on expected return:

> "Expected" return estimates are subject to uncertainty and error. Expected returns for each asset class can be conditional on economic scenarios; in the event a particular scenario comes to pass, actual returns could be significantly higher or lower than forecasted. Because of the inherent limitations of all models, potential investors should not rely exclusively on the model when making an investment decision. The model cannot account for the impact that economic, market, and other factors may have on the implementation and ongoing management of an actual investment portfolio.[23]

Mr. Hrycay is thus using the BlackRock forecasts for precisely the purpose that BlackRock cautions against – predicting the specific value of an actual investment portfolio while ignoring the likely impacts of uncertainty.

28. The Hrycay Report improperly focuses on only the expected (or central) outcome from BlackRock's projections, which creates a false sense of precision in the future wealth calculations, and fails to incorporate the uncertainty estimates provided by BlackRock. BlackRock summarizes this issue as follows:

> Focusing on simple median estimates can lead investors astray: it is akin to having one foot in freezing water, one foot in boiling water – and on average feeling fine. Recessions are binary not average outcomes: they will or will not happen.[24]

29. The image below from the BlackRock website displays the ranges around the mean expected return.[25] Of note, the website contains a check-box to show "mean return uncertainty," and the graph indicates wide ranges around the mean are possible.

[23] BlackRock Investment Institute, "Capital market assumptions," May 2021, available at <https://www.blackrock.com/institutions/en-us/insights/charts/capital-market-assumptions>.

[24] BlackRock Investment Institute, "Building resilience: a framework for strategic asset allocation," December 2018, available at <https://www.blackrock.com/corporate/literature/whitepaper/bii-portfolio-perspectives-december-2018.pdf>, p. 4.

[25] BlackRock Investment Institute, "Capital market assumptions," May 2021, available at <https://www.blackrock.com/institutions/en-us/insights/charts/capital-market-assumptions>.

30. BlackRock notes the importance of considering uncertainty:

> To build resilient portfolios, we have developed a few necessary building blocks. Central return assumptions are not enough on their own. We need to assess and account for the uncertainty around these return assumptions. To do so, we need to see how financial markets may evolve in different scenarios by looking at multiple potential return pathways – especially adverse ones.[26]

31. BlackRock uses the graph below to illustrate the importance of considering the range of outcomes, which widens as the forecast horizon increases; these bands of uncertainty increase rapidly between five and 10 years out.[27]

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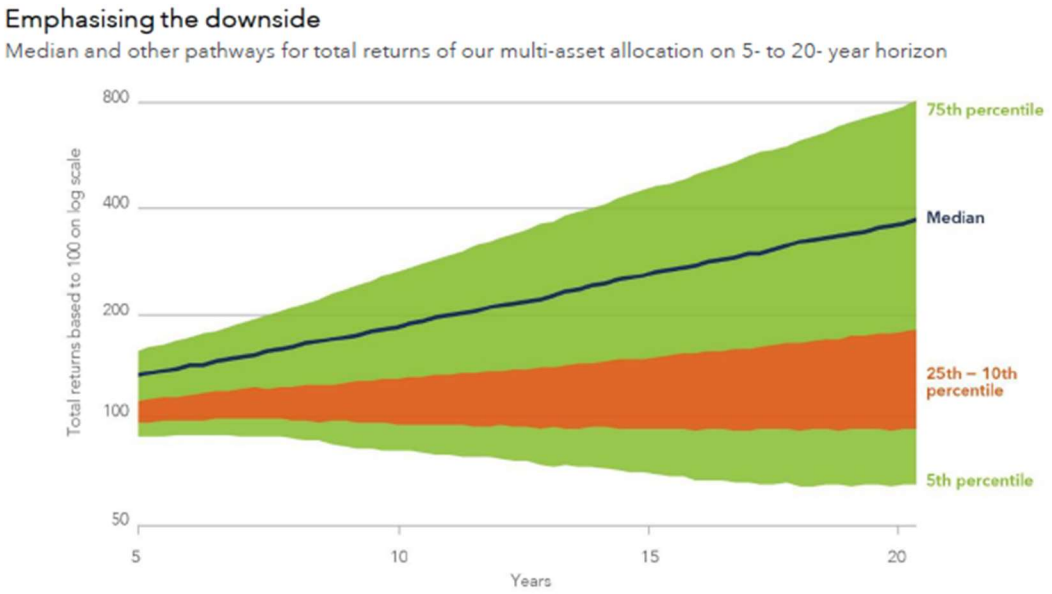
[26] BlackRock Investment Institute, "Building resilience: a framework for strategic asset allocation," December 2018, available at <https://www.blackrock.com/corporate/literature/whitepaper/bii-portfolio-perspectives-december-2018.pdf>, p. 3.

[27] BlackRock Investment Institute, "Building resilience: a framework for strategic asset allocation," December 2018, available at <https://www.blackrock.com/corporate/literature/whitepaper/bii-portfolio-perspectives-december-2018.pdf>, p. 5.



This information is not intended as a recommendation to invest in any particular asset class or strategy or as a promise – or even an estimate - of future performance.
Sources: BlackRock Investment Institute, December 2018. Data as of 31 October 2018. Notes: The chart shows a multi-asset total return profile on a log scale between five and 20 years and highlights downside pathways. The upper and lower bounds represent the 75th and 5th percentiles of the thousands of pathways generated by our stochastic generator, a way of building random scenarios tied to historical returns and our return assumptions. The orange band represents the 25th and 10th percentile to isolate downside pathways relative to the median in blue. The log (non-linear) scale makes it easier to visualise data with large variations.

32. The Hrycay Report presents future value estimates that are significantly higher than what would be calculated under more conservative growth estimates provided by BlackRock. As discussed above, BlackRock's methodology emphasizes the importance of considering more conservative growth trajectories, a consideration ignored by Mr. Hrycay.

33. Uncertainty about investment returns is an important consideration that is ignored in the Hrycay Report. The Hrycay Report thus presents the future value calculations with a false sense of precision. Moreover, the Hrycay Report fails to consider the full range of BlackRock's growth estimates, as advocated by BlackRock's own methodology description.

C. Conclusions are Highly Sensitive to Assumptions on IAC Asset Class

34. I understand that the IACs are illiquid investments that have no known market value. The IACs have not been sold and it is unknown when some or all of the IACs will actually be sold or how much the proceeds of such a sale will be. I have been informed by Counsel that certain parties to the matter have conducted diligence regarding potential valuation of the IACs. I have further been instructed that the $4.5 billion number assigned to the IACs is an illustrative number representing gross sales proceeds of all the IACs at an unknown

date. This number was selected for purposes of a presentation to Mr. Hrycay's clients (and others) that presented a valuation of the Sackler family's net worth, including certain trusts. As the IACs have no known market value, I understand that an illustrative number was selected instead for purposes of demonstrating a hypothetical proportional allocation of value across the Side A and Side B entities.

35. The IAC investments are both the largest asset class (with an illustrative pre-tax value of $4.8B in March 2021) and have the highest assumed return (7.4%).[28] I understand that these are illiquid investments in a number of foreign pharmaceutical companies that the Sackler Family is to sell within seven years. The Hrycay Report makes an implicit assumption that these sales will occur at prices that reflect a 7.4% compound annual growth rate relative to the 2021 value. That is, according to the Hrycay Report, a sale in seven years would be at a 65% premium to the current value (which is based on an illustrative number).[29]

36. The Hrycay Report makes no attempt to perform sensitivity analysis to determine how actual after-tax proceeds from IAC sales to fund the Proposed Payments may depend on the unknown future financial condition of the businesses and the relevant markets if and when some or all of the assets are sold, actual tax rates (33% rate chosen as an illustrative rate in the Net Asset Presentation), or other factors. The Martin Report identifies a number of these issues.[30] Moreover, the Hrycay Report does not recognize that the initial economic value of the IAC investments may differ significantly from the illustrative value given the significant complexities associated with these company investments. For example, a $1 billion reduction in the IAC starting value will result in about a $2 billion reduction in the 2030 valuation using Mr. Hrycay's chosen 7.4% growth rate.[31] To the extent that the $4.5 billion illustrative gross sale proceeds assumption for IAC pertains to a sale after September 2019, the Hrycay Report appears to double count the investment gains between

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28 Exhibits 1 and 2.

29 1.074^7 − 1= 0.6486.

30 Expert Report of Timothy J. Martin on Behalf of the Mortimer-Side Initial Covered Sackler Persons, June 15, 2021 ("Martin Report"), p. 9 ("Neither the $4.5 billion aggregate value nor the 33% blended tax rate are projections of actual value or tax liability; they are applied solely for illustrative purposes. The IACs had been carried on the respective balance sheets at a book value basis that was not representative of the value that could be realized through an orderly sale process. Because the current value of the IACs was (and is) unknown, a hypothetical IAC value was used to better approximate the value that could be realized from an IAC sale.").

31 1.074^9.25 = 1.94, or roughly $2 for each $1 invested.

September 2019 and that sale date because the $4.5 billion sale price would already reflect any gains leading up to the sale.

37. I further understand that the IAC investments are to be sold off in full within seven years and the proceeds deposited in escrow to fund the Proposed Payments. Under this approach, there would be no remaining value of the IAC investments in 2030 (or even earlier). Yet Mr. Hrycay assumes significant growth in these investment values, such that they have gross asset values of $3.8 billion (Side A) and $3.7 billion (Side B) in 2030.[32] This represents approximately 44% (Side A) and 35% (Side B) of the gross asset values in 2030, as compared to 37% (Side A) and 28% (Side B) in 2021.[33] The implication of these results is that Mr. Hrycay did not appear to properly model the sales restrictions on the IAC investments (in addition to the double-counting issue identified in the previous paragraph).

D. Investment Returns are Inflated

38. The actual value of the Sackler Family assets in 2030 will depend on the *net* returns of each asset class, after subtracting investment fees. However, the BlackRock expected returns used in the Hrycay Report are before fees, as noted on the BlackRock website, "Asset return expectations are *gross of fees*."[34] The disclosure included with the BlackRock expected returns data states:

> Unlike actual portfolio outcomes, the model outcomes do not reflect actual trading, liquidity constraints, fees, expenses, taxes and other factors that could impact future returns.[35]

While the BlackRock expected returns used in the Hrycay Report are before fees, BlackRock emphasizes the role of fees and accounts for them separately in its analyses.[36]

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32 Exhibits 1 and 2.

33 Calculated from Exhibits 1 and 2.

34 BlackRock Investment Institute, "Capital market assumptions," May 2021, available at <https://www.blackrock.com/institutions/en-us/insights/charts/capital-market-assumptions> (emphasis added).

35 BlackRock Investment Institute, "BlackRock asset class return, uncertainty, volatility and correlation expectations," March 31, 2021, available at <https://www.blackrock.com/blk-inst-assets/images/tools/blackrock-investment-institute/cma/BlackRock-Capital-Market-Assumptions.xlsx>.

36 BlackRock Investment Institute, "Building resilience: a framework for strategic asset allocation," December 2018, available at <https://www.blackrock.com/corporate/literature/whitepaper/bii-portfolio-perspectives-december-2018.pdf>, p. 6 ("Costs – both from product fees and overall governance costs – are explicitly covered. As product fees are negotiable, they change over time and can vary greatly across different investors. Our framework assesses returns gross of fees. We bring representative fees into the portfolio optimisation process.").

39. Over the course of a decade, the cost of annual fees grows due to compounding. For example, consider quoted foreign investments, to which Mr. Hrycay assigns a 5.4% annual return based on the BlackRock "Global 60/40 Portfolio." According to the Investment Company Institute, the median equity mutual fund with a global investment objective charged annual fees of 1.23% in 2019.[37] Over a 9.25-year period, a $1,000 initial investment would grow to $1,627 ignoring annual fees, but after including the annual investment costs of 1.23%, the same $1,000 investment would grow to only $1,459, a 10.3% reduction in value.[38]

40. Expenses can be large in some asset classes, especially in alternative investments like private equity and hedge funds. These investments often charge a management fee (commonly 2% of assets), as well as a performance fee (commonly 20% of profits).[39] To illustrate the effective cost of these fees, suppose the fund earns 8% annually before fees and has the typical 2%/20% fee structure. Net of fees, the fund earns an annual return of 4.4%, so a $1,000 investment grows to $1,489 after 9.25 years, 26.9% less than the amount ignoring fees ($2,038).[40]

41. Taxes are another consideration that would affect the real-world value of the Sackler Family assets in 2030 but is ignored by the Hrycay Report. For example, dividends and partnership income are taxed as ordinary income when received, reducing the amount invested each year. To illustrate the effect, consider a stock that has a five percent expected return, comprised entirely of dividends (i.e., no capital gains), and an investor with a 40% combined federal and state income tax rate. After 9.25 years, this investor would have $1,314 (after tax) per $1,000 invested, which is 16.3% less than the amount if taxes are ignored ($1,570).[41]

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[37] Investment Company Institute, "ICI Research Perspective: Trends in the Expenses and Fees of Funds, 2019," March 2020, available at <https://www.ici.org/system/files/attachments/pdf/per26-01.pdf >, p. 5.

[38] 1.0540^9.25 = 1.627; 1.0417^9.25 = 1.459.

[39] *See, e.g.*, Preqin Academy, Lesson 2.3 "Private Capital Fund Terms," 2021, available at <https://www.preqin.com/academy/lesson-2-private-capital/private-capital-fund-terms>; Preqin Academy, Lesson 3.3, "Hedge Fund Fees, Types, and Structures," 2021, available at < https://www.preqin.com/academy/lesson-3-hedge-funds/hedge-fund-fees-types-and-structures>.

[40] 8.0% − 2.0% − 0.2×8.0% = 4.40%; 1.0800^9.25 = 2.038; 1.0440^9.25 = 1.489.

[41] 5.0%×(1− 0.4) = 3.0%; 1.0500^9.25 = 1.570; 1.0300^9.25 = 1.314.

42. To illustrate how the actual performance of the Sackler Family portfolio may differ from the forecasted annual returns in the Hrycay Report, I examine two of the trusts, which I refer to as "Trust A" and "Trust B." Using data on the flows of funds into and out of these trusts and their September 2019 ending values, I calculate the approximate annual return earned over the period 2010 through 2019. As summarized in Exhibit 6, "Trust A" earned approximately 1.15% per year, as compared to an assumed return of 4.28% in the Hrycay Report. To the extent that "Trust A" earns returns from 2021 through 2030 that are lower than assumed by the Hrycay Report, the 2030 net asset value will be lower than indicated in the Hrycay Report. The exhibit also shows that the Hrycay Report assumes a higher return than the historical realized return for "Trust B" and the two on a combined basis.

E. Requires Assumptions About Portfolio Composition

43. Another embedded assumption in the Hrycay Report is that the Sackler family would not alter the composition of their portfolios in light of the Proposed Payments and other developments between 2019 and 2021, and that they would not rebalance their portfolios over time.

44. The Hrycay Report uses the composition of the Side A portfolio in September 2019 and the Side B portfolio in September 2020. I understand that the Proposed Payments were determined later, so the observed portfolio allocations would not reflect any adjustments the Sackler family might have made after the Proposed Payments were known. A standard wealth management approach is to tailor the portfolio to account for fixed, known future obligations. For example, a typical investor would tend to shift assets into less risky investments in advance of binding payment obligations in order to avoid the risk of having to withdraw funds during a downturn in an investment's performance.

45. Moreover, the Hrycay Report fails to incorporate portfolio rebalancing. A typical investor will target a certain risk profile for an investment portfolio. Investments with greater risk will be expected to grow at higher rates, and thus over time will constitute a greater fraction of the investment portfolio. In order to maintain the same level of overall portfolio risk, it is necessary to rebalance and shift some of the higher growth investment values into less risky investment categories. The Hrycay Report fails to incorporate any rebalancing. This has the result of shifting the projected Sackler family portfolio such that an increasing

fraction is held in the asset classes with the highest assumed return, and thus the highest risk. Because the Hrycay Report assumes that each investment always earns the same constant return, this artificially inflates the calculated 2030 portfolio value relative to what a real-world investor who rebalances would achieve.

F. Ignores Liquidity Needs and Other Portfolio Considerations

46. To calculate the 2030 net asset value, the Hrycay Report also assumes that the Sackler Family will not withdraw any funds from these accounts other than the Proposed Payments and does not make expenditures from these accounts to cover living expenses. I understand that the Side A and Side B of the Sackler Family each consist of many "pods" of smaller family units, each of which may have different (and potentially changing) investment objectives, liquidity needs, and risk preferences.[42] These factors affect the target composition of the investment portfolio, which in turn will affect investment outcomes. Investment objectives do not remain constant over time. These objectives commonly change and may be influenced by a variety of factors, including lifecycle events, material changes in wealth, and risk tolerance. The Hrycay Report fails to incorporate potential changes in investment objectives and their potential impact on liquidity requirements, and instead assumes that assets will uniformly remain in potentially higher growth but less liquid investment classes.

47. Further, I understand that there are complex cross-guarantees among the many entities comprising the Side A and Side B branches of the Sackler Family. These may affect the construction of the portfolios and the availability of funds for the Proposed Payments and other liquidity needs. I also understand that the "pods" are also negotiating credit support agreements with the settling parties that may result in additional constraints on the construction of their portfolios and availability of funds.

G. Returns of Individual Investments Likely Will Deviate from Benchmark Indices

48. Mr. Hrycay assumes that each of the actual investments held by the Sackler Family will earn the same return as the benchmark index that Mr. Hrycay selected. For example, the

[42] Disclosure Statement, pp. 164, 171.

IAC category, among the largest asset categories in the portfolio, represents investments in various foreign pharmaceutical companies.[43] The Hrycay Report assumes these investments will earn the same return as the index of all stocks in all countries other than the US. Even within the US, historical data show that pharma companies often earn returns that differ significantly from a broad market index. For example, the S&P Pharmaceuticals Select Industry Index earned an 8.8% annual return over the ten years ending July 1, 2021, as compared to 12.4% for the S&P Composite 1500.[44]

IV. FUTURE VALUE OF PROPOSED PAYMENTS

49. The present value of the Proposed Payments calculated in the Hrycay Report are not directly comparable to the future value of the Sackler family net assets as calculated in the Hrycay Report because they occur at different points in time. The future value of the Proposed Payments would represent additional net wealth of the Sackler family absent any Proposed Payments. By way of example, applying the 5.42% growth rate – that is, the weighted average of the 2021-2030 annual returns assumed in the Hrycay Report – the payments would grow to $5.35 billion. I calculate the value of the Proposed Payments in June 2030, assuming the funds continued to grow at 5.42%, which is the weighted average of the 2021-2030 annual returns assumed in the Hrycay Report.[45]

50. Exhibit 7 shows that the Proposed Payments grow to $5.35 billion when invested at 5.42%. In other words, by making the Proposed Payments, the Sackler family is forgoing not only the principal of those payments, but any return that could be generated on that amount. The Sackler Family would be wealthier in June 2030 than if it did not make the Proposed Payments.

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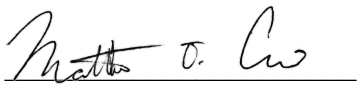
[43] U.S. Department of Justice, "Plea Agreement with Purdue Pharma L.P.," October 20, 2020, available at <https://www.justice.gov/opa/press-release/file/1329576/download>, Exhibit A.

[44] S&P Dow Jones Indices, "S&P Pharmaceuticals Select Industry Index," June 30, 2021, available at <https://www.spglobal.com/spdji/en/idsenhancedfactsheet/file.pdf?calcFrequency=M&force_download=true&hostIdentifier=48190c8c-42c4-46af-8d1a-0cd5db894797&indexId=2355>.

[45] Exhibit 3.



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Education

Ph.D., Finance, August 2007 — Purdue University, West Lafayette, IN
B.S., Finance, May 2001 — Grove City College, Grove City, PA

Professional and Academic Experience

Senior Fellow, Berkeley Center for Law and Business; *Senior Visiting Scholar*, Berkeley Law School, University of California, 2019-Present

Visiting Research Fellow, Harvard Law School Program on Corporate Governance, 2018-2019

Advisor to Commissioner Robert J. Jackson, Jr., U.S. Securities and Exchange Commission, 2018

Economic Fellow / Financial Economist, Office of Litigation Economics, Division of Economic and Risk Analysis, U.S. Securities and Exchange Commission, 2014-2018

Assistant Professor of Finance, Mendoza College of Business, University of Notre Dame, Notre Dame, IN, 2008-2014

Visiting Faculty, Krannert School of Management, Purdue University, West Lafayette, IN, 2007-2008

Analyst, Debt Capital Markets, National City Bank, Cleveland, OH, 2001-2003

Publications

Retail Shareholder Participation in the Proxy Process: Monitoring, Engagement and Voting (with Alon Brav and Jonathon Zytnick), *Journal of Financial Economics*, forthcoming.

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Presentations

Arizona State University College of Law, 2020
U.C. Berkeley School of Law, 2019; 2018
Vanderbilt University Law School, 2019
Berkeley Center for Law and Business, 2018
Cornerstone Research, 2018
Cornell University, 2016; 2015
Oxera, London, 2016
Institute for Law and Economics, University of Pennsylvania, 2015
U.C. Berkeley M&A Roundtable, New York, 2015
American Bar Association, Business Law, Private Equity M&A Subcommittee meeting, 2015
Virginia Commonwealth University, 2015
American Finance Association, annual meeting, 2015
Argentum Centre for Private Equity Symposium, Bergen, Norway, 2014
U.S. Securities and Exchange Commission, 2014
American Law and Economics Association, University of Chicago, 2014
The Brattle Group, 2013

U.S. Securities and Exchange Commission, 2013
Institute for Law and Economics, University of Pennsylvania, 2013
All Indiana Conference, 2013; 2010; 2009
American Law and Economics Association, Stanford Law School, 2012
George Washington University Law School, 2012
American Finance Association, annual meeting, 2012
Ohio State, 2011
Ohio University, 2011
Conference on Empirical Legal Studies, Yale Law School, 2010
Argentum Conference and Symposium on "Private Equity: The Road Ahead," Stockholm, Sweden, 2010
Purdue Alumni Conference, 2010
American Finance Association, annual meeting, 2008
Indiana University, 2008
Penn State, 2008
University of Arizona, 2008
University of Colorado, 2008
University of Florida, 2008
University of North Carolina at Chapel Hill, 2008
University of Notre Dame, 2008
University of Oregon, 2008
University of Pittsburgh, 2008
Virginia Tech, 2008
Financial Management Association, annual meeting, 2007
University of Georgia, 2007
University of Kentucky, 2007
Western Finance Association, annual meeting, 2006

Journal Referee: *Review of Financial Studies*, *Journal of Financial and Quantitative Analysis*, *Journal of Corporate Finance*, *European Financial Management, Journal of Empirical Legal Studies, Financial Management, North American Journal of Economics and Finance, International Review of Law & Economics, Managerial and Decision Economics*, *Annals of Finance, Journal of Economics and Business*

Teaching Experience

UC Berkeley School of Law

LAW 251.52: Economics of Corporate and Securities Litigation, Fall: 2020

University of Notre Dame, Mendoza College of Business

FIN 70400: Corporate Restructuring, Mergers & Acquisitions (MBA Elective), Fall: 2008-2013

FIN 40410: Mergers and Acquisitions, Fall: 2008-2013

Purdue University, Krannert School of Management

MGMT 412: Financial Markets and Institutions, Spring: 2006 & 2008

MGMT 610: Financial Management I (MBA Core), Fall: 2007

Expert Witness Experience

- *Abu Dhabi Investment Authority v. Mylan N.V. and Mylan Inc.*, Case No. 1:20-cv-01342 (S.D. Ny). Report May 2021.

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APPENDIX B

MATERIALS RELIED UPON

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EXHIBIT 1

HRYCAY ESTIMATED NET ASSET VALUE FOR SIDE A "MORTIMER SIDE" OF SACKLER FAMILY
MARCH 31, 2021 – JUNE 30, 2030

	Asset or Liability Class Name	Est. Value as of 3/31/2021	Est. Value as of 6/30/2030	2021–2030 Annual Return Rate	2021–2030 CAGR
	[A]	[B]	[C]	[D]	[E]
	Assets				
[1]	Cash/Cash Equivalents (US)	$344,934,265	$153,779,553	0.8%	(8.4%)
[2]	Cash/Cash Equivalents (ex-US)	$291,185,993	$130,643,537	0.9%	(8.3%)
[3]	Investments in brokerage accounts / Quoted investments (US)	$92,660,035	$58,323,855	4.7%	(4.9%)
[4]	Investments in brokerage accounts / Quoted investments (ex-US)	$783,248,595	$524,846,614	5.4%	(4.2%)
[5]	Investments in related and third parties (US)	$886,249,370	$1,594,748,287	6.6%	6.6%
[6]	Investments in related and third parties (ex-US)	$434,890,256	$840,649,556	7.4%	7.4%
[7]	Accounts Receivable (US)	$14,015,397	$6,248,383	0.8%	(8.4%)
[8]	Accounts Receivable (ex-US)	$16,350,413	$7,335,778	0.9%	(8.3%)
[9]	Loans to third parties (US)	$1,458,551	$1,213,039	1.8%	(2.0%)
[10]	Loans to third parties (ex-US)	$1,085,904	$947,902	2.4%	(1.5%)
[11]	Notes Receivable from Related Parties (US)	$83,854,041	$40,969,599	1.8%	(7.5%)
[12]	Notes Receivable from Related Parties (ex-US)	$291,052,595	$149,254,777	2.4%	(7.0%)
[13]	Retirement Accounts (US)	$5,159,027	$7,870,442	4.7%	4.7%
[14]	Residential Real Estate (US)	$160,804,306	$282,757,025	6.3%	6.3%
[15]	Residential Real Estate (ex-US)	$222,498,085	$285,085,257	2.7%	2.7%
[16]	Other Real Estate (US)	$38,984,979	$68,550,879	6.3%	6.3%
[17]	Other Real Estate (ex-US)	$306,406,786	$392,596,894	2.7%	2.7%
[18]	Collectibles and other personal property (US)	$70,868,559	$114,261,698	5.3%	5.3%
[19]	Collectibles and other personal property (ex-US)	$133,915,060	$215,911,856	5.3%	5.3%
[20]	Other Misc Assets (US)	$4,401,831	$4,756,342	0.8%	0.8%
[21]	Other Misc Assets (ex-US)	$7,974,047	$8,671,091	0.9%	0.9%
[22]	IAC	$2,485,610,642	$3,801,476,912	7.4%	4.7%
[23]	**Total Assets**	$6,677,608,736	$8,690,899,277	n/a	2.9%
	Liabilities				
[24]	Accounts Payable	$5,522,536	$5,967,306	0.8%	0.8%
[25]	Notes Payable	$303,574,673	$359,484,996	1.8%	1.8%
[26]	Debt - Secured	$59,996,677	$71,046,457	1.8%	1.8%
[27]	Debt - Unsecured	$50,033,450	$59,248,271	1.8%	1.8%
[28]	Other Liabilities	$193,365	$208,938	0.8%	0.8%
[29]	Tax Obligation	$3,760,994	$4,063,894	0.8%	0.8%
[30]	Est. Tax Liability: IAC	$820,251,224	$1,585,558,236	7.4%	7.4%
[31]	Est. Tax Liability: Unrealized Gains	$45,923,899	$70,059,983	4.7%	4.7%
[32]	**Total Liabilities**	$1,289,256,818	$2,155,638,083	n/a	5.7%
[33]	**Net Asset Value**	$5,388,351,918	$6,535,261,194	n/a	2.1%

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EXHIBIT 1

HRYCAY ESTIMATED NET ASSET VALUE FOR SIDE A "MORTIMER SIDE" OF SACKLER FAMILY
MARCH 31, 2021 – JUNE 30, 2030

Notes & Sources:

[A]-[B] From Hrycay Report, at Exhibit 5.
[C] From Hrycay Report, at Exhibit 9.
[D] From Hrycay Report, at Exhibit 7.
[E] = ([C] / [B])^(1 / 9.25 years between 3/31/2021 and 6/30/2030) − 1.
[23] May not equal total assets summed in [1]:[22] due to rounding.
[32] May not equal total liabilities summed in [24]:[31] due to rounding.

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EXHIBIT 2

HRYCAY ESTIMATED NET ASSET VALUE FOR SIDE B "RAYMOND SIDE" OF SACKLER FAMILY
MARCH 31, 2021 – JUNE 30, 2030

	Asset or Liability Class Name	Est. Value as of 3/31/2021	Est. Value as of 6/30/2030	2021–2030 Annual Return Rate	2021–2030 CAGR
	[A]	[B]	[C]	[D]	[E]
	Assets				
[1]	Cash and Cash Equivalents	$444,853,788	$298,997,721	0.8%	(4.2%)
[2]	Accounts Receivable and Prepaid Expenses	$15,508,848	$10,423,897	0.8%	(4.2%)
[3]	Marketable Securities and Hedge Funds	$2,393,136,470	$2,270,960,355	4.7%	(0.6%)
[4]	Independent Associated Companies (IACs)	$2,292,542,165	$3,731,766,250	7.4%	5.4%
[5]	Notes Receivable	$616,308,360	$453,966,819	1.8%	(3.3%)
[6]	Other Investments	$20,381,107	$31,092,743	4.7%	4.7%
[7]	Private Equity Investments	$1,821,808,011	$2,779,290,070	4.7%	4.7%
[8]	Real Estate Investments	$506,534,287	$890,685,900	6.3%	6.3%
[9]	Residential Real Estate	$120,686,231	$212,213,718	6.3%	6.3%
[10]	Life Insurance - Surrender Value	$2,701,541	$2,919,116	0.8%	0.8%
[11]	Retirement Accounts	$5,917,096	$9,026,926	4.7%	4.7%
[12]	Artwork (including Jewelry)	$72,651,986	$117,137,126	5.3%	5.3%
[13]	**Total Assets**	$8,313,029,890	$10,808,480,642	n/a	2.9%
	Liabilities				
[14]	Accounts Payable	-	-	0.8%	n/a
[15]	Long-Term Debt	$506,705,885	$600,027,536	1.8%	1.8%
[16]	Mortgage Debt	$2,860,429	$3,311,416	1.6%	1.6%
[17]	Short-Term Debt	$181,574,445	$215,015,595	1.8%	1.8%
[18]	Est. Tax Liability: IACs	$756,556,691	$1,462,435,723	7.4%	7.4%
[19]	Est. Tax Liability: Unrealized Gains	$320,728,500	$489,292,797	4.7%	4.7%
[20]	**Total Liabilities**	$1,768,425,950	$2,770,083,066	n/a	5.0%
[21]	**Net Asset Value**	$6,544,603,940	$8,038,397,576	n/a	2.2%

Notes & Sources:
[A]-[B] From Hrycay Report, at Exhibit 6.
[C] From Hrycay Report, at Exhibit 10.
[D] From Hrycay Report, at Exhibit 8.
[E] = ([C] / [B])^(1 / 9.25 years between 3/31/2021 and 6/30/2030) − 1.
[13] May not equal total assets summed in [1]:[12] due to rounding.
[20] May not equal total liabilities summed in [14]:[19] due to rounding.

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EXHIBIT 3

HRYCAY ESTIMATED TOTAL NET ASSET VALUE FOR SACKLER FAMILY
MARCH 31, 2021 – JUNE 30, 2030

		Est. Value as of 3/31/2021	Est. Value as of 6/30/2030	2021–2030 CAGR	Weighted Average Return
		[A]	[B]	[C]	[D]
[1]	Side A Assets	$6,677,608,736	$8,690,899,277	2.89%	5.59%
[2]	Side A Liabilities	$1,289,256,818	$2,155,638,083	5.71%	5.46%
[3]	Side A Net Assets	$5,388,351,918	$6,535,261,194	2.11%	5.63%
[4]	Side B Assets	$8,313,029,890	$10,808,480,642	2.88%	5.14%
[5]	Side B Liabilities	$1,768,425,950	$2,770,083,066	4.97%	4.72%
[6]	Side B Net Assets	$6,544,603,940	$8,038,397,576	2.25%	5.25%
[7]	Total Assets	$14,990,638,626	$19,499,379,919	2.88%	5.34%
[8]	Total Liabilities	$3,057,682,768	$4,925,721,149	5.29%	5.03%
[9]	Total Net Assets	$11,932,955,858	$14,573,658,770	2.18%	5.42%

Notes & Sources:

[A][1]-[B][3] From Exhibit 1.
[A][4]-[B][6] From Exhibit 2.
[A]-[B][7] = [1] + [4].
[A]-[B][8] = [2] + [5].
[A]-[B][9] = [3] + [6].
[C] = ([B] / [A])^(1 / 9.25 years between 3/31/2021 and 6/30/2030) − 1.
[D][1]-[3] Calculated from Exhibit 1, at columns [B] (Est. Value as of 3/31/2021) and [D] (2021–2030 Annual Return Rate).
[D][4]-[6] Calculated from Exhibit 2, at columns [B] (Est. Value as of 3/31/2021) and [D] (2021–2030 Annual Return Rate).
[D][7]-[9] Calculated from Exhibit 1 and Exhibit 2, at columns [B] (Est. Value as of 3/31/2021) and [D] (2021–2030 Annual Return Rate).

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EXHIBIT 4

ACTUAL ANNUAL RETURNS EARNED ON "TRUST A" AND "TRUST B" AS OF SEPTEMBER 30, 2019

		"Trust A"		"Trust B"		Combined	
	Cash Flow Date	Cash Flows	End Balance	Cash Flows	End Balance	Cash Flows	End Balance
	[A]	[B]	[C]	[D]	[E]	[F]	[G]
[1]	04/29/2010*	$21,680,000	$21,680,000	-	-	$21,680,000	$21,680,000
[2]	08/18/2010	$3,000,000	$24,755,342	-	-	$3,000,000	$24,745,151
[3]	09/23/2010	$18,000,000	$42,783,211	-	-	$18,000,000	$42,769,245
[4]	10/14/2010	$206,757	$43,018,057	-	-	$206,757	$43,000,288
[5]	12/30/2010	$1,000,000	$44,121,706	-	-	$1,000,000	$44,089,887
[6]	01/01/2011*	-	$44,124,464	($31,730)	($31,730)	($31,730)	$44,060,541
[7]	01/13/2012	-	$44,646,721	$24,036,903	$24,004,939	$24,036,903	$68,548,155
[8]	02/09/2012	$462,000	$45,146,309	-	$24,017,542	$462,000	$69,060,069
[9]	03/01/2012	-	$45,175,868	$9,600	$24,036,949	$9,600	$69,108,777
[10]	04/23/2012	$6,500,000	$51,750,556	-	$24,061,727	$6,500,000	$75,707,592
[11]	07/13/2012	$9,000,000	$60,881,372	-	$24,099,645	$9,000,000	$84,873,093
[12]	10/12/2012	$398,000	$61,452,296	-	$24,142,315	$398,000	$85,479,564
[13]	01/09/2013	-	$61,623,468	$5,000,000	$29,184,235	$5,000,000	$90,685,468
[14]	04/15/2013	-	$61,808,637	$9,000,000	$38,238,899	$9,000,000	$99,921,115
[15]	12/17/2013	$12,575,000	$74,860,678	-	$38,422,705	$12,575,000	$113,162,810
[16]	01/29/2014	$7,500,000	$82,461,351	-	$38,454,924	$7,500,000	$120,794,427
[17]	03/04/2014	$2,315,296	$84,864,319	$1,037,991	$39,518,410	$3,353,287	$124,258,789
[18]	04/17/2014	-	$84,981,101	$9,000,000	$48,552,319	$9,000,000	$133,406,675
[19]	06/16/2014	-	$85,140,609	$1,305,000	$49,914,138	$1,305,000	$134,928,232
[20]	12/17/2014	-	$85,631,635	$3,000,000	$53,093,487	$3,000,000	$138,601,039
[21]	03/05/2015	-	$85,840,641	$1,304,000	$54,478,274	$1,304,000	$140,197,595
[22]	10/19/2015	$2,150,000	$88,604,511	-	$54,720,936	$2,150,000	$143,214,366
[23]	01/25/2016	-	$88,876,310	$6,000,000	$60,825,570	$6,000,000	$149,594,274
[24]	03/04/2016	$400,000	$89,384,410	-	$60,871,702	$400,000	$150,151,639
[25]	08/19/2016	$935,000	$90,788,678	-	$61,070,826	$935,000	$151,768,231
[26]	01/09/2017	-	$91,195,345	$1,100,000	$62,341,298	$1,100,000	$153,456,054
[27]	11/27/2018	$1,150,018	$94,324,612	-	$63,181,766	$1,150,018	$157,482,606
[28]	09/30/2019*	$326,000	$95,560,000	-	$63,561,000	$326,000	$159,121,000
[29]	Actual Balance as of 9/30/2019		$95,560,000		$63,561,000		$159,121,000

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EXHIBIT 4

ACTUAL ANNUAL RETURNS EARNED ON "TRUST A" AND "TRUST B"
AS OF SEPTEMBER 30, 2019

Notes & Sources:

* Three additional cash flows of -$320,000 from "Trust A," -$31,730 from "Trust B," and +$326,000 to "Trust A" assumed to occur on 4/29/2010, 1/1/2011, and 9/30/2019, respectively. This is conservative because it assumes the two cash outflows occur at the Trusts' earliest respective dates in the data while the one cash inflow occurs on the latest possible date (*i.e.* , 9/30/2019). From PEO - Distributions Chart.

[A]-[B],[D] From PEO - Distributions Chart. Corresponds to cash flows for the "KAS 2010 Family Trust" and the "KAS 2011 Family Trust."

[C] = End Balance for previous period × (1 + 1.15% interest rate)^(number of years from prior period to current period) + [B].

[E] = End Balance for previous period × (1 + 0.71% interest rate)^(number of years from prior period to current period) + [D].

[F] = [B] + [D].

[G] = End Balance for previous period × (1 + 0.99% interest rate)^(number of years from prior period to current period) + [F].

[29] From Martin Report, at Exhibit D (pp. 10, 123-124, 126). *See also,* Exhibit 6, at row [8].

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EXHIBIT 5

HRYCAY EXPECTED RETURNS EARNED ON "TRUST A" AND "TRUST B"
AS OF SEPTEMBER 30, 2019

	Asset or Liability Class Name	"Trust A"	"Trust B"	Combined	2021–2030 Annual Return Rate
	[A]	[B]	[C]	[D]	[E]
	Assets				
[1]	Cash/Cash Equivalents (US)	$37,189,000	$61,832,000	$99,021,000	0.80%
[2]	Cash/Cash Equivalents (ex-US)	$1,158,000	$1,806,000	$2,964,000	0.90%
[3]	Investments in related and third parties (US)	$51,694,000	-	$51,694,000	6.60%
[4]	Investments in related and third parties (ex-US)	$6,954,000	-	$6,954,000	7.40%
[5]	Accounts Receivable (US)	$2,065,000	-	$2,065,000	0.80%
[6]	Total Assets	$99,060,000	$63,638,000	$162,698,000	n/a
	Liabilities				
[7]	Est. Tax Liability: Unrealized Gains	$3,500,000	$77,000	$3,577,000	4.70%
[8]	Net Asset Value	$95,560,000	$63,561,000	$159,121,000	n/a
[9]	Weighted Average Return	4.28%	0.80%	2.89%	

Notes & Sources:

[1][A]-[8][C] From Martin Report, at Exhibit D (pp. 10, 123-124, 126).

[1]-[8][D] = [B] + [C].

[1]-[8][E] From Exhibit 1. *See also,* Hrycay Report, at Exhibit 7.

[9] Calculated from columns [D] and [E], at rows [1]-[8], as weighted average of assets/liabilities and 2021–2030 annual return rates.

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EXHIBIT 6

ACTUAL VS. HRYCAY-EXPECTED RETURNS FOR "TRUST A" AND "TRUST B"
AS OF SEPTEMBER 30, 2019

		"Trust A"	"Trust B"	Combined
		[A]	[B]	[C]
[1]	Actual Return Earned (2010–2019)	1.15%	0.71%	0.99%
[2]	Hrycay Expected Return	4.28%	0.80%	2.89%
[3]	Difference	(3.13%)	(0.08%)	(1.90%)

Notes & Sources:
[1] From Exhibit 4.
[2] From Exhibit 5.
[3] = [1] − [2].

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EXHIBIT 7

FUTURE VALUE OF PROPOSED PAYMENTS
JUNE 30, 2021 – JUNE 30, 2030

		6/30/2021	6/30/2022	6/30/2023	6/30/2024	6/30/2025	6/30/2026	6/30/2027	6/30/2028	6/30/2029	6/30/2030	Total
		[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]
[1]	Proposed Payment Schedule	$300	$350	$350	$350	$350	$300	$1,000	$475	$425	$375	$4,275
[2]	Future Value Factor	1.608	1.525	1.447	1.372	1.302	1.235	1.172	1.111	1.054	1.000	
[3]	Future Value of Proposed Payments	$482	$534	$506	$480	$456	$371	$1,172	$528	$448	$375	$5,352

Notes & Sources:
In $ millions.
[1] From Disclosure Statement, pp. 153-154. Assumes that none of the discretionary payment amounts in 2029 and 2030 are deferred to 2031. *See* Hrycay Report, pp. 18-19
[2] Calculated as (1 + 5.42% discount rate)^(Number of years until 6/30/2030). Discount rate corresponds to Total Net Assets Weighted Average Return (from Exhibit 3, at [D][9]).
[3] = [1] × [2].
[K] Except for [K][2], calculated as sum of [A] to [J].